MESHERA, V., dotsent

Problem of titles for the members of a ship's crew. Mor. flot 15 no.7:23-24 Jl '55. (MLRA 8:9)
(Ships--Manning)

MESHERA, V., dotsent.

Problems in the codification of Soviet maritime law. Mor.flot 16 no.8:26 Ag '56. (MLRA 9:10)

1.LVDMU.

(Maritime law)

[illegible], Vl[illegible] [illegible] [illegible] [illegible] [illegible]ineering Maritime School imeni Makarov; [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] of dissertation: "The Problem of the [illegible] of Soviet maritime law" at the Council, [illegible] [illegible] [illegible], AS, USSR; Prot No [illegible], [illegible].

([illegible], [illegible])

MESKERA, V., dots.

History of the "Freedom of the seas" principle in connection with the "draft articles on the sea." Mor.flot 18 no.3:27-28 Mr '58. (MIRA 11:4)

1. Leningradskoye Vysshaye inzhenernoye morskoye uchilishche imeni admirala Makarova.
(Freedom of the seas)

MESHERA, V., prof.; ZLOCHEVSKAYA, Kh., starshiy prepodavatel'

Leyden University edition of "The merchant shipping code of the Soviet Union." Mor.flot 21 no.3:44 Mr '61. (MIRA 14:6)

1. Leningradskoye vysshoye inzhenernoye morskoye uchilishche im. admirala Makarova (for Zlochevskaya)
(Maritime law—Codification)

DRABKIN, Yakov Markovich, kapitan dal'nego plavaniya; Prinimali uchastiye: VETRENKO, L.D., kand. tekhn.nauk; DRABKIN, Ya.M., NEMCHIKOV, V.I., kand.tekhn.nauk; MESHEROV, V.F., kand. yurid. nauk; KANTOROVICH, Ya.B., kand.tekhn.nauk; MATYUSHINA, S.P., red.; TIKHONOVA, Ye.A., tekhn. red.

[Freight transportation by sea]Perevozka gruzov morem. Izd.3., ispr. i dop. Moskva, Izd-vo "Morskoi transport," 1962. 384 p. (MIRA 15:8)

(Shipping)

MESHERA, V., doktor yurid. nauk, prof.

Profile of ship handling specialists. Mor. flot 22 no.10:37-38 O '62. (MIRA 15:10)

1. Leningradskoye vysshaye inzhenernoye morskoye uchilishche im. admirala Makarova.

(Ship handling)

MESHERA, V., doktor yuridicheskikh nauk

Nautical training schools in St. Petersburg. Mor. flot. 24 no.[illegible]:24 My '64. (MIRA [illegible]:12)

APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001033710001-5"

HUNGARY/SOVIET UNION

MESHERSKIY, R. M., and [illegible], A. K., Institute of Higher Nervous Activity and Neurophysiology at the Soviet Academy of Sciences (Institut Vysshei Nervnoi Deyatelnosti i Neirofiziologii, AN SSSR) in Moscow, USSR; and ADORJANI, Csaba, Institute of Psychology at the Hungarian Academy of Sciences (Magyar Tudomanyos Akademia Pszichologiai Intezete) in Budapest.

"Corticofugal Regulation of Latent Periods of Bioelectrical Responses to Photic Stimulation in the Rabbit Visual Cortex"

Budapest, Acta Physiologica et Pharmacologica Scientiarum Hungaricae, Vol 27, No 3-4, 8 Jun 1966, pp 239-244.

Abstract: [English article] The authors attempted to elucidate the change in amplitude of responses of the lateral geniculate nucleus attributable to excitatory and inhibitory corticofugal effects by studying the latencies of evoked potentials in different states of the visual cortex, such as strychninization or depression. The findings, presented and discussed in some detail, supported the assumptions published by other authors in this regard. 18 references, including 10 Russian, 1 Czechoslovak, 1 German, and 6 Western. (Manuscript received 2 Jun 1965).

1/1

MESHIn, A. [illegible], inzh.; Sh[illegible], V.I., inzh.

Improv[illegible] burner [illegible] rotary kilns. [illegible]
no.11 [illegible].

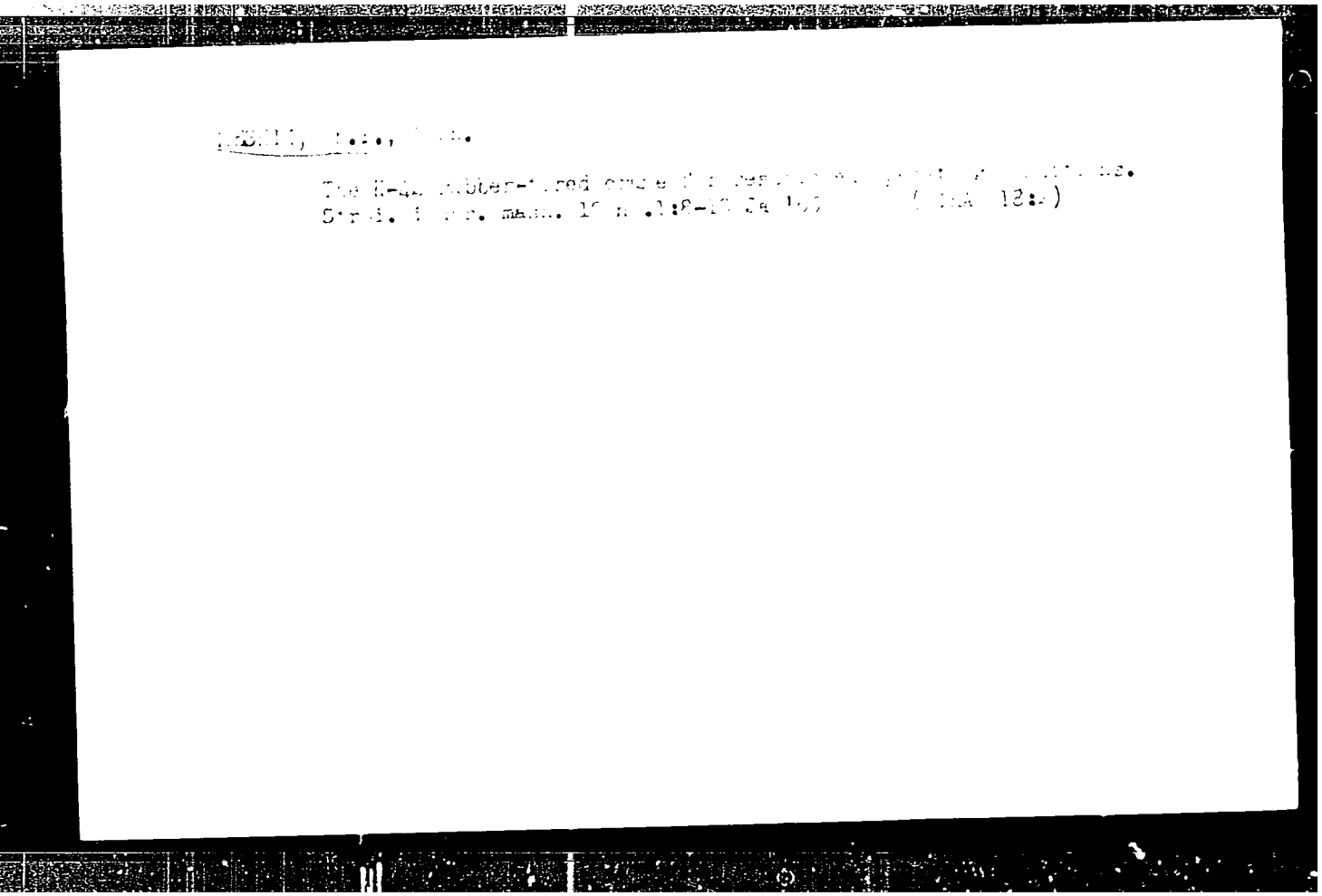
(Gas burners)
(Kilns, Rotary)

MES... Ch.P., inzh.

Pneumatic-wheeled tower crane. Stroi. i dor. mash. 8 no.4
7-8 Ja '63.

MESHIK, Ch.P., inzh.

Tower truck cranes. Mekh.stroi. 20 no.5:26-27 My '63.
(MIRA 16:4)
(Cranes, derricks, etc.)



TSFASMAN, A.Z., MEShINE, Ye.N.

Determination of the life span of erythrocytes using Cr[illegible]. [illegible]MIFA 1[illegible]
Med. rad. 8 no.[illegible] 0 '63.

1. Iz 4-y kafedry terapii (zav. [illegible]enler.-korrespondent AMN SSSR prof. P.I. Yegorov), TSentral'nogo instituta usovershenstvovaniya vrachey i Instituta meditsinskoy radiologii (direktor deystvitel'nyy chlen AMN SSSR prof. T.A. Zedgenidze) AMN SSSR.

TSFASMAN, A.Z.; MECHINE, Ye.[illegible]

Use of Cr^{51} for the study of erythrocyte survival in cancer of the stomach. Med. rad. 1[illegible] no.9:50-54 S '65. (MIRA 18:10)

1. Institut meditsinskoy radiologii AMN SSSR (direktor - deystvitel'nyy chlen AMN SSSR - prof. G.A.Zedgenidze) i [illegible] kafedra [illegible] (zav. - chlen korrespondent AMN SSSR prof. [illegible]) Tsentral'nogo instituta usovershenstvovaniya vrachey, Moskva.

MESHINE, Ye.M.

Survival of erythrocytes in anemia caused by renal insufficiency; a study by means of the Cr^{51} method. Med. rad. 10 no.9:54-57 S '65. (MIRA 18:10)

Duration of the life of erythrocyte in liver cirrhosis; a study by means of Cr^{51}. Ibid.:57-62

1. Institut meditsinskoy radiologii AMN SSSR (direktor - deystvitel'nyy chlen AMN SSSR G.A.Zedgenidze) i 4-ya kafedra terapii (zav. - chlen-korrespondent AMN SSSR - prof. P.I.Yegorov) TSentral'nogo instituta usovershenstvovaniya vrachey, Moskva.

MESHIY, G. A.

AID P - 3075

Subject : USSR/Electricity

Card 1/1 Pub. 29 - 9/29

Author : Meshiy, G. A., Eng.

Title : Regrinding of the collar of a turbine thrust bearing

Periodical : Energetik, 7, 15-16, Jl 1955

Abstract : The author describes a device developed by G. A. Knabe, an employee of the Khar'kov Polytechnical Institute, used to regrind the surface of the collar of a 3000-kw Erste Brunner turbine. One drawing.

Institution : None

Submitted : No date

MESHIY, G.A., inzh.

Placing working disks on the turbine shaft. Energetik 5 no.10: 10 O '57. (MIRA 10:12)
(Turbines)

BANIT, F., nauchn. red.; ROYAK, S.M., red.; MESHIK, T.G., red.; DANYUSHEVSKAYA, Z.D., red.

[Dust elimination from technological processes; a collection of translations] Obespylivanie tekhnologicheskikh protsessov; sbornik perevodov. Moskva, No.1. 1962. 159 p. (MIRA 17:4)

1. Moscow. Gosudarstvennyy vsesoyuznyy nauchno-issledovatel'skiy institut tsementnoi promyshlennosti.

MESHIY, G.A., inzh.

Concerning I.Z.Kopp's article "Determination of an efficient design of the flanged joints of steam turbine frames." Energomashinostroenie 8 no.11:43 N '62. (MIRA 16:1)
(Steam turbines)

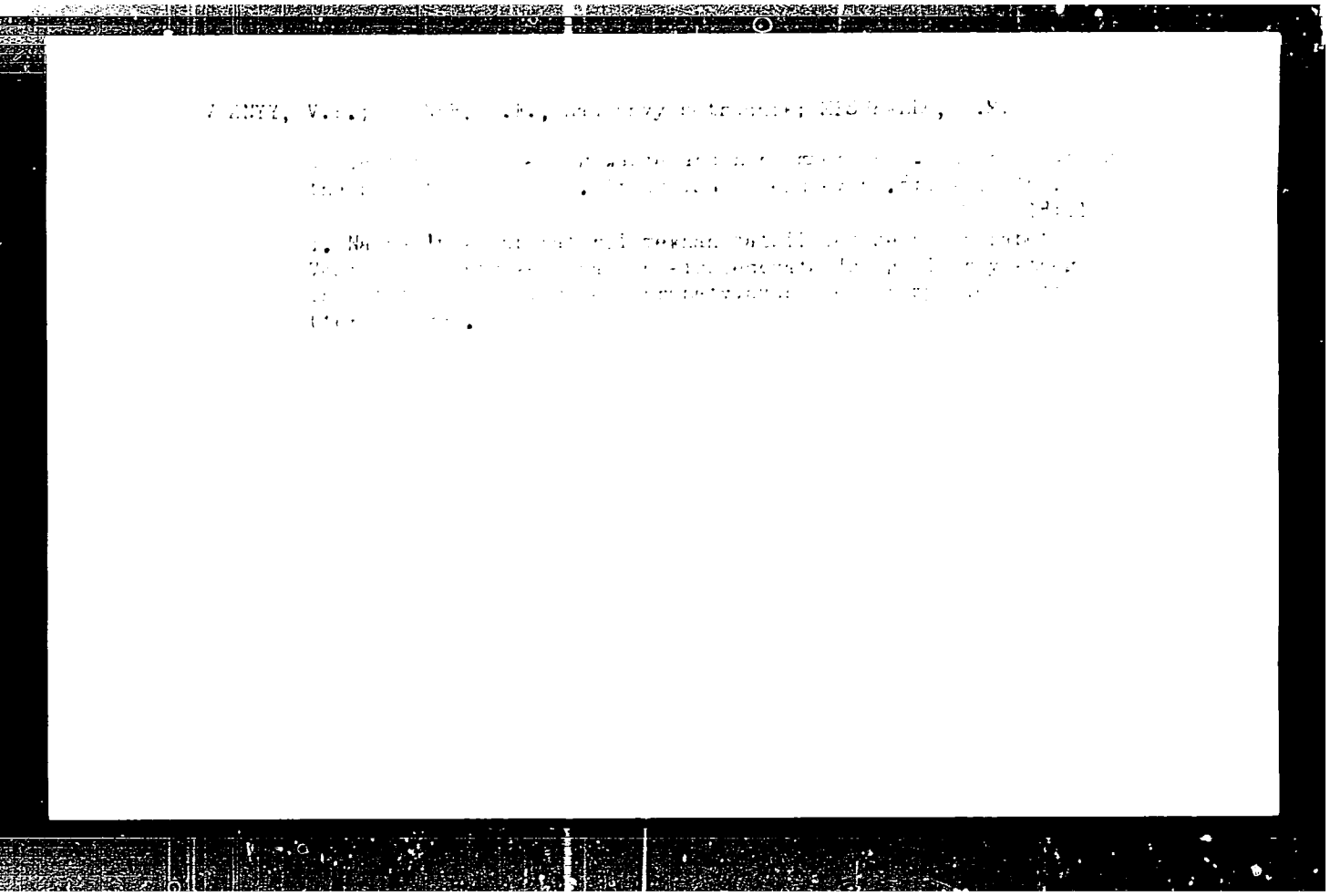
MESHKALLO, V. M.

"Skidding of timber by means of endless rope under mountainous conditions," Mechanization of Labor Consuming and Heavy Work, 1951.

MESHKALLO, V.M., inzhener.

Using the L-20 winch unit in Siberia. Mekh.trud.rab. 10 no.5: 37-40 My '56. (MLRA 9:8)
(Siberia--Lumbering--Machinery)

MESHKALLO, V.M., inzhener; Frank, A.A., inzhener.
Haulage of logs by the simplified technique of working a low store.
Mekh.trud.rab. 10 no.12:30-32 D '56. (MLRA 10:5)
(Khakass Autonomous Province--Lumber--Transportation)



MYESHKAUSKAS, K.A., PURIN, V. K., TARMISTO, V. Yu., KILOTIYEVSKIY, A. M., KOMAR, I. V.

"New Features in Economic Geography of Soviet Baltic Republics (the role of the so-called 'cultural factor' in geographical phenomena)."

report to be submitted for the Intl. Geographical Union, 10th General Assembly and 19th Intl. Geographical Congress, Stockholm, Sweden, 6-13 August 1960.

DROBNIS, Aleksandras Antanovich; MESHKAUSKAS, Kazimir Antonovich [Meškauskas, K.A.]; KAPLUNOV, A.S., red.; ATROSHCHENKO, L.Ye., tekhn.red.

[Twenty years of Soviet Lithuania, 1940-1960] 20 let Sovetskoi Litvy, 1940-1960. Moskva, Izd-vo "Znanie," 1960. 31 p. (Vsesoiuznoe obshchestvo po rasprostraneniiu politicheskikh i nauchnykh znanii. Ser.1, Istoriia, no.28). (MIRA 13:10)
(Lithuania--Economic conditions)

KOLOTIYEVSKIY, A.; KOMAR, I.; MESHKAUSKAS, K.; PURIN, V.[Purins, V.]
TARMISTO, V.

The new in the economic geography of the Soviet Baltic States.
Vestis Latv ak no.9:171-175 '60. (EEAI 10:9)

(Baltic States--Economic conditions)

GUDONITE, M.[Gudonyte, M.], otv. red.; BELYUKAS, K.[Bieliukas, K.] red.; MESHKAUSKAS, K.[Meshkauskas, K.], red.; YANUSHKYAVICHYUS, V. [Januskevicius, V.], red.

[Transactions of the Conference on the Problems of the Distribution of Industry and Urban Development, Vilnius, August 20-23, 1962] Trudy Konferentsii po voprosam razmeshcheniia promyshlennosti i razvitiya gorodov. Vilnius, AN Litovskoi SSR, 1963. 200 p. (MIRA 17:4)

1. Konferentsiya po voprosam razmeshcheniya promyshlennosti i razvitiya gorodov. Vilna, 1962. 2. Institut ekonomiki AN Litovskoy SSR (for Meshkauskas).

KORNEV, N.A.; MESHKAUSKAS, Yu. I. [Meskauskas, J.]

Laminated reinforced keramzit concrete elements in bending and their bearing capacity. Trudy AN Lit. SSR. Ser. B. no. 4:125-138 '65 (MIRA 19:2)

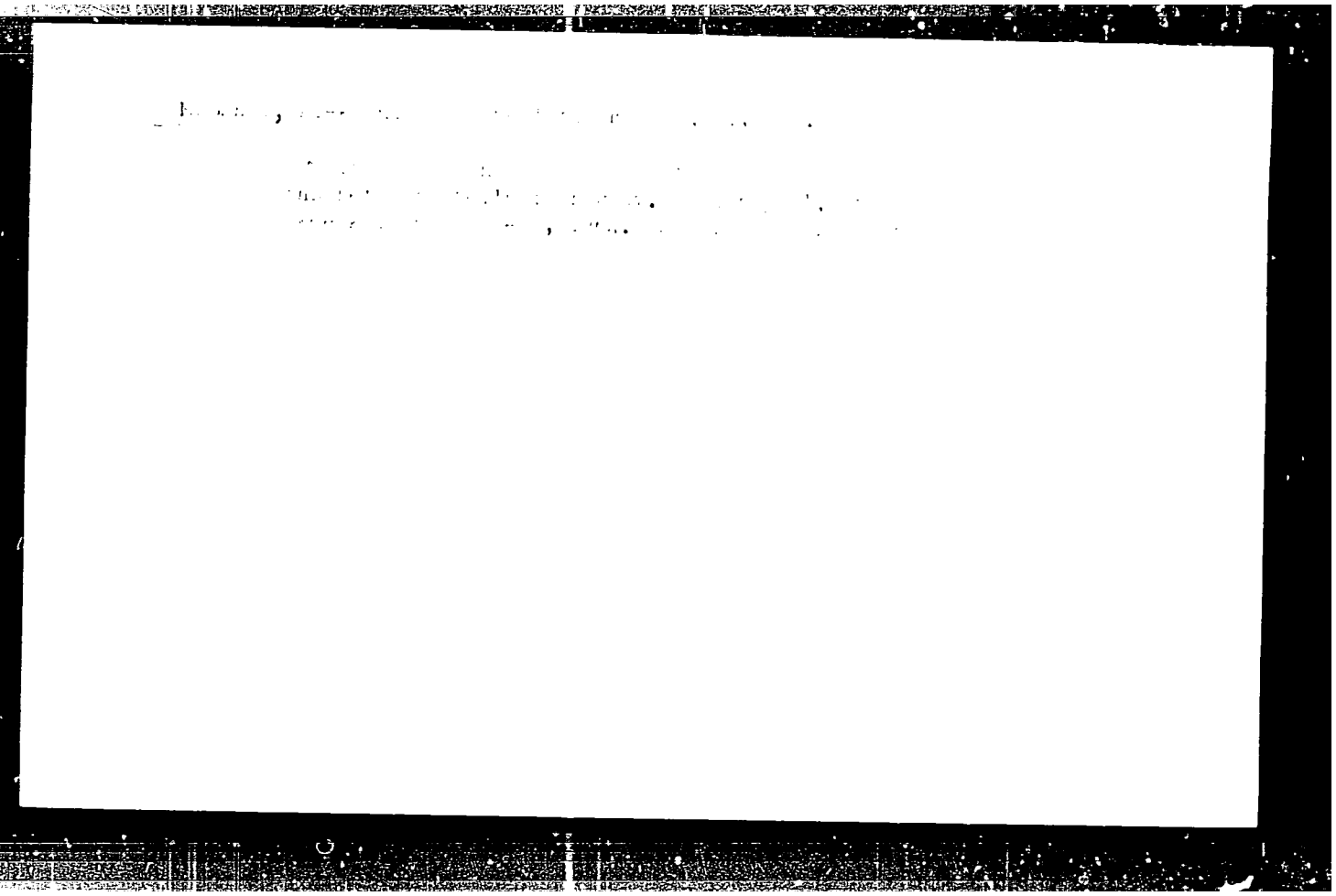
1. Institut stroitel'stva i arkhitektury AN Litovskoy SSR.
Submitted April 14, 1965.

DOLIDZE, S.Ya. (Tbilisi); MESHKI, L.Sh. (Tbilisi)

New method for treating neuralgic pains with chloroform. Vrach. delo no.3:231-233 Mr '57 (MLRA 10:5)

1. Kabinet funktsional'noy diagnostiki (zav.-S.Ya. Dolidze) 13-y polikliniki i terapevticheskoye otdeleniye Vtoroy gorodskoy bol'nitsy.

(CHLOROFORM--PHYSIOLOGICAL EFFECT) (NEURALGIA)



APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001033710001-5"

MESHKOV, A.A.

Keramzit is the best aggregate for sectional concrete construction. Kolyma 21 no.1:31-33 Ja '59. (MIRA 12:6)

1.Upravleniye stroitel'stva i promyshlennosti stroitel'nykh materialov, Magadanskaya oblast'.
(Magadan Province--Lightweight concrete)

L 07071-67 EWT(d)/FS...2
ACC NR: AP6025693 SOURCE CODE: UR/0106/66/000/005/0029/0034

AUTHOR: Kiselev, L. K.; Meshkov, A. A.

ORG: None

TITLE: A method for improving noiseproofing of data transmission channels when pulse noises and discontinuities are present in the tract

SOURCE: Elektrosvyaz', no. 5., 1966, 29-34

TOPIC TAGS: radio noise, data processing, data processing equipment, data transmission, circuit delay line, telephone network

ABSTRACT: A method which can be used to combat transitory discontinuities and pulse noises in long distance telephone channels used for data transmission is reviewed. The method involves the preselection of the frequency characteristic for group time delay in the transmission channel and subsequent restoration at the receiver. Calculations and experimental data for verifying the effectiveness of the method are cited and the manner in which the method can be technically accomplished is described. The author expresses his appreciation to K. A. Sil'vinskaya and B. D. Kozhevnikova for their help in making the calculations and in tuning the frequency dependent delay line. Orig. art. has: 2 formulas and 7 figures.

SUB CODE: 17/SUBM DATE: 15Dec65/ORIG REF: 002/OTH REF: 001

Card 1/1 UDC: 621.391.17

SOV /124-58-5 5677D

Translation from: Referativnyy zhurnal, Mekhanika, 1958, Nr 5, p 107 (USSR)

AUTHOR: Meshkov, A. I.

TITLE: Some Problems on the Equilibrium of an Elastic Parallelepiped (Nekotoryye zadachi o ravnovesii uprugogo parallelepipeda)

ABSTRACT: Bibliographic entry on the author's dissertation for the degree of Candidate of Physical-Mathematical Sciences, presented to the MGU (Moscow State University), Moscow 1957

ASSOCIATION: MGU (Moscow State University), Moscow

.. Parallelepipeds--Theory

Card 1/1

SOV/ 124-58-5-5663

Translation from: Referativnyy zhurnal, Mekhanika, 1958, Nr 5, p 105 (USSR)

AUTHOR: Meshkov, A. I.

TITLE: The Equilibrium of an Elastic Parallelepiped (Ravnovesiye uprugogo parallelepipeda)

PERIODICAL: Vestn. Mosk. un-ta. Ser. matem. mekhan., astron., fiz., khimii, 1957, Nr 2, pp 35-43

ABSTRACT: The M. M. Filonenko-Borodich energy method of determining the stress distributions in three-dimensional elastic-theory problems (Prikl. matem. i mekhan., 1951, Vol 15, Nr 2; 1953, Vol 17, Nr 4 pp 465-469; RZhMekh 1954 Nr 2, abstract 2223) is applied to the study of the stress distribution in an oblique parallelepiped. A system of oblique coordinates is used and the expression for the potential energy of deformation for a unit of volume is given in terms of the contravariant components of the stress tensor. Following this, a calculation is made for the stress distribution in a rectangular parallelepiped having a parellelogram-shaped cross section, subject to torsional forces distributed according to a specific law along the top and bottom faces of the parallelepiped. A second calculation is

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The Equilibrium of an Elastic Parallelepiped

made for temperature stresses in a rectangular parallelepiped. The corrective deformation tensors are used in the form of a product of trigonometric cosine-binomial functions.

A. I. Lur'ye

1. Parallelepipeds--Stresses
2. Stress analysis
3. Mathematics--Applications

Card 2/2

16,7300

68038

AUTHOR: Meshkov A.I. SOV/55-59-3-6/32

TITLE: General Solution of the Problem of Torsion of an Oblique-Angled Parallelepiped

PERIODICAL: Vestnik Moskovskogo universiteta. Seriya matematiki, mekhaniki, astronomii, fiziki khimii, 1959, Nr 3, pp 43-46 (USSR)

ABSTRACT: The present paper is a direct continuation and completion of [Ref 1]. In [Ref 1] the author generalized a method of M.M.Filonenko-Borodich which originally was applicable to a right parallelepiped to an oblique-angled parallelepiped. The problem of torsion was given for it if the loads of two opposite lateral faces are distributed differently. The problem was divided into two partial problems and the fundamental tensor for the first one was already given in [Ref 1]. The determination of the tension tensor of the second partial problem was reduced to the determination of a certain function $\omega(x,y)$. In the present paper $\omega(x,y)$ is obtained in the form $\omega(x,y) = \omega_1(x)\,\omega_2(y)$, where $\omega_2(y) = \frac{1}{2}\left(1-\cos\frac{\pi y}{k}\right)$, while $\omega_1(x)$ is represented by a double integral. Finally the resulting

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68038

General Solution of the Problem of Torsion of an Oblique-Angled Parallelepiped SOV/55-59-3-6/32

tension tensor of the initial problem is formed by addition. There is 1 Soviet reference.

ASSOCIATION: Kafedra teorii uprugosti (Chair of Theory of Elasticity)

SUBMITTED: February 16, 1959

Card 2/2

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C111/C222

11.7300

AUTHOR: Meshkov, A.I.

TITLE: General solution of the problem on the contraction of an elastic oblique parallelepiped

PERIODICAL: Moscow. Universitet. Vestnik. Seriya I. Matematika, mekhanika, no.1, 1961, 38-45

TEXT: The author considers the case of load given in the figure, where the continuous loads $\Phi_o(x,y)$ and $\Phi_h(x,y)$ are arbitrary, their difference

$$\Phi(x,y) = \Phi_h(x,y) - \Phi_o(x,y), \qquad (5)$$

however, is a continuous function. The solution is carried out according to the method of M.M.Filonenko-Borodich with the notations used in (Ref.2: A.I.Meshkov, Obshcheye resheniye zadachi o kruchenii kosougol'nogo parallelepipeda [General solution of the problem of torsion of an oblique parallelepiped], Vestn.Mosk. un-ta, ser.matem.,mekh., astron., fiz.,khimii, no.3, 1959). The tension tensor is represented as the sum of a correcting tensor and a basic tensor. The correcting tensor is written in the form

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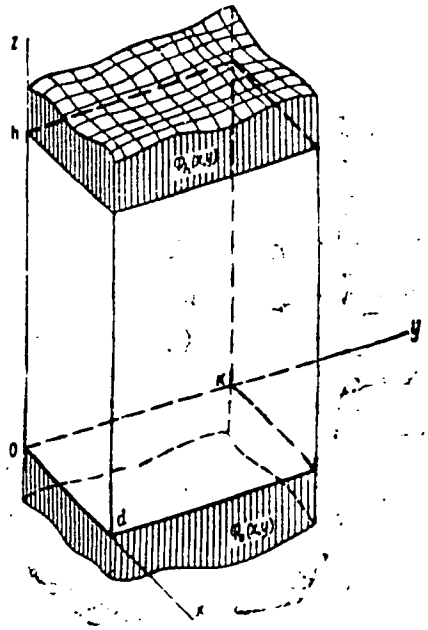
C111/C222

General solution of the problem...



Card 2/8

General solution of the problem...

$$P_{xx} = \sum_m \sum_n \sum_p C_{mnp} P_m(x) P_n^*(y) \cos \frac{p\pi z}{l} +$$

$$+ \sum_m \sum_n \sum_p B_{mnp} P_m(x) \cos \frac{n\pi y}{} P_p^*(z),$$

$$P_{yy} = \sum_m \sum_n \sum_p A_{mnp} \cos \frac{m\pi x}{d} P_n(y) P_p^*(z) +$$

$$+ \sum_m \sum_n \sum_p C_{mnp} P_m^*(x) P_n(y) \cos \frac{p\pi z}{h},$$

$$P_{zz} = \sum_m \sum_n \sum_p B_{mnp} P_m^*(x) \cos \frac{n\pi y}{k} P_p(z) +$$

$$+ \sum_m \sum_n \sum_p A_{mnp} \cos \frac{m\pi x}{d} P_n^*(y) P_p(z), \qquad (3)$$

$$P_{yz} = - \sum_m \sum_n \sum_p A_{mnp} \cos \frac{m\pi x}{d} P_n'(y) P_p'(z),$$

Card 3/8

General solution of the problem...

$$P^{xz} = -\sum_m \sum_n \sum_p B_{mnp} P'_m(x) \cos \frac{n\pi y}{k} P'_p(z),$$

$$P^{xy} = -\sum_m \sum_n \sum_p C_{mnp} P'_m(x) P'_n(y) \cos \frac{p\pi z}{h}.$$

with the aid of the Maxwell's tension function

$$\varphi_1 = \sum_m \sum_n \sum_p A_{mnp} \cos \frac{m\pi x}{d} P_n(y) P_p(z) \quad (m, n, p = 0, 1, 2, \ldots),$$

$$\varphi_2 = \sum_m \sum_n \sum_p B_{mnp} P_m(x) \cos \frac{n\pi y}{k} P_p(z) \quad (m, n, p = 0, 1, 2, \ldots), \qquad (3')$$

$$\varphi_3 = \sum_m \sum_n \sum_p C_{mnp} P_m(x) P_n(y) \cos \frac{p\pi z}{h} \quad (m, n, p = 0, 1, 2, \ldots).$$

Card 4/8

General solution of the problem...

A further possible form of the correcting tensor is given. For constructing the correcting tensor the problem is split up into two problems: 1. on z = 0 and z = h there act equal loads

$$p^{zz} = \phi_o(x,y), \tag{7}$$

while the four remaining lateral faces are free of tension. 2. on z = h there acts

$$p^{zz} = \phi(x,y), \tag{8}$$

while the five remaining faces are free of tension. For the basic tensor of problem 1 the author puts

$$p^{zz} = \phi_o(x,y), \quad p^{xx} = p^{yy} = p^{yz} = p^{zx} = p^{xy} = 0; \tag{9}$$

(9) satisfies the homogeneous equilibrium equations and (7). For the construction of the basic tensor of problem 2 the author uses the Morera-tension functions

$$\psi_1 = \psi_2 = 0,$$

$$\psi_3 = \frac{1}{2}\varphi(z)\left[\int_0^x\int_0^y \phi(x,y)dxdy - \frac{y}{k}\int_0^x\int_0^k \phi(x,y)dxdy - \frac{x}{d}\int_0^y\int_0^d \phi(x,y)dxdy\right], \tag{10}$$

Card 5/8

General solution of the problem...

where $(z) = \frac{1}{2}\left(1-\cos\frac{z}{h}\right)$. (11)

Then one obtains $p_{xx} = p_{yy} = 0,$

$$p_{zz} = \varphi(z)\left[\Phi(x,y) - \frac{1}{k}\int_0^k \Phi(x,y)\,dy - \frac{1}{d}\int_0^d \Phi(x,y)\,dx\right].$$

$$p_{yz} = -\frac{1}{2}\frac{d\varphi}{dz}\left[\int_0^y \Phi(x,y)\,dy - \frac{y}{k}\int_0^k \Phi(x,y)\,dy - \frac{1}{d}\int_0^y\int_0^d \Phi(x,y)\,dxdy\right]. \quad (12)$$

$$p_{xz} = -\frac{1}{2}\frac{d\varphi}{dz}\left[\int_0^x \Phi(x,y)\,dx - \frac{x}{d}\int_0^d \Phi(x,y)\,dx - \frac{1}{k}\int_0^x\int_0^k \Phi(x,y)\,dxdy\right].$$

$$p_{xy} = -\frac{1}{2}\frac{d^2\varphi}{dz^2}\left[\int_0^x\int_0^y \Phi(x,y)\,dxdy - \frac{y}{k}\int_0^x\int_0^k \Phi(x,y)\,dxdy - \frac{x}{d}\int_0^y\int_0^d \Phi(x,y)\,dxdy\right].$$

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C111/C222

General solution of the problem...

Since the component $P^{z'z}$ of (12) does not satisfy the condition (8), with the aid of the Maxwell's tension functions

$$\varphi_1 = \frac{\varphi(z)}{d}\int_0^y\int_0^y\int_0^d \Phi(x, y)\, dxdy^2, \qquad (13)$$

$$\varphi_2 = \frac{\overline{\varphi}(z)}{k}\int_0^x\int_0^x\int_0^k \Phi(x, y)\, dx^2dy, \qquad \varphi_3 \equiv 0.$$

according to Maxwell's formulas the author forms the components

$$p_{xx} = \frac{1}{k}\frac{d^2\varphi}{dz^2}\int_0^x\int_0^x\int_0^k \Phi(x, y)\, dx^2dy, \qquad p_{yy} = \frac{1}{d}\frac{d^2\overline{\varphi}}{dz^2}\int_0^y\int_0^y\int_0^d \Phi(x, y)\, dxdy^2,$$

$$p_{zz} = \varphi(z)\left[\frac{1}{k}\int_0^k \Phi(x, y)\, dy + \frac{1}{d}\int_0^d \Phi(x, y)\, dx\right]. \qquad (14)$$

Card 7/8

General solution of the problem...

$$p_{yz} = -\frac{1}{d}\frac{d\varphi}{dz}\int_0^y\int_0^d \Phi(x,y)\,dxdy, \quad p_{zz} = -\frac{1}{k}\frac{d\varphi}{dz}\int_0^x\int_0^k \Phi(x,y)\,dxdy,$$

$$p_{xy} \equiv 0.$$

The sum of the P^{zz} of (12) and (14) satisfies (8). Therewith the basic tensor is obtained as a sum of (9),(12),(14). The general tension tensor results if still (3) is added.
The author mentions V.P.Netrebko. There is 1 figure and 3 Soviet-bloc references.

ASSOCIATION:Kafedra teorii uprugosti (Chair of Theory of Elasticity)

SUBMITTED: March 9, 1960

Card 8/8

ACCESSION NR: AP4039692 S/0181/64/006/006/1907/1908

AUTHORS: Meshkov, A.M.; Zhdanov, G. S.

TITLE: Structure of layers of di and triphenylmethane pigments with n and p type conductivity

SOURCE: Fizika tverdogo tela, v. 6, no. 6, 1964, 1907-1908

TOPIC TAGS: diphenylmethane, triphenylmethane, pigment, n type conductivity, p type conductivity, electron microscope, electron diffraction, Siemens Elmiskop I microscope

ABSTRACT: Electron microscope and electron diffraction studies were conducted on reflecting and dispersing layers of brilliant green and crystalline violet diphenylmethane and triphenylmethane pigments to ascertain the forms of their aggregations. The Siemens Elmiskop I electron microscope was used. Reflecting layers were produced by precipitation from ethyl alcohol solution on a charcoal plate. After a 20-30 minute exposure to ethyl alcohol vapors (in air and in vacuum), these layers acquired p-type conductivity. An investigation of photographs and electron-diffraction patterns of reflecting layers not exposed to the vapors proved them to be completely uniform and amorphous. After their

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ACCESSION NR: AP4039692

exposure, the layers were transformed into aggregates of microcrystals 0.05-0.3 μ in size. Their diffraction patterns represented sharply defined rings. It follows that the change in the conductivity from n-type to p-type is intimately related to the structural changes in the solid pigment layers, as was previously proven for metal-free layers of phthalocyanin by V. S. My*l'nikov and Ye. K. Putseyko (FTT, 4, 772, 1962). Orig. art. has: 1 table.

ASSOCIATION: Gosudarstvenny*y opticheskiy institut im. S. M. Vavilova Leningrad (State Optical Institute)

SUBMITTED: 28Jan64 ENCL: 00

SUB CODE: MT,SS NO REF SOV: 005 OTHER: 000

Card 2/2

ACCESSION NR: AP4041048 S/0120/64/000/003/0181/0185

AUTHOR: Meshkov, A. M.; Akimov, I. A.

TITLE: System for investigating contact potential difference, capacitive photoelectromotive force, and photoconductivity of high-resistance semiconductors

SOURCE: Pribory* i tekhnika eksperimenta, no. 3, 1964, 181-185

TOPIC TAGS: semiconductor measurement, high resistance semiconductor, contact potential difference, capacitor photoelectromotive force, photoconductivity

ABSTRACT: A system is described by means of which it is possible to measure the photocurrent (up to 10^{-14} amp) and capacitive photoelectromotive force (up to 1 uv) of a high-resistance semiconductor with an effective input resistance of 1 Gohm in a vacuum, as well as the contact potential difference (cpd) under conditions of constant, modulated, and pulsed illumination with an accuracy up to 0.1 mv. An experimental setup for measuring capacitor photoelectromotive force permitted the recording of all the processes of capacitor photo emf taking place during a light modulation period shorter

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ACCESSION NR: AP4041048

than 0.1 sec. In combination with a synchronous detector, even the sign of the photocurrent charge carrier in the semiconductor can be determined. Two arrangements for measuring the cpd of semiconductors were used, one utilizing continuous and pulsed illumination, and the other modulated illumination. The zero method was used for measuring the stationary cpd under conditions of continuous illumination. In pulsed illumination the signal proportional to the cpd is displayed on an oscillograph or recorded. The modulated illumination method permits the investigation of the initial phase of the cpd variation and eliminates processes longer than a single period of light modulation. A frequency modulation of 10 cps was used. Orig. art. has: 3 figures.

ASSOCIATION: Gosudarstvenny*y opticheskiy institut (State Optical Institute)

SUBMITTED: 06Jul63 ATD PRESS: 3060 ENCL: 00

SUB CODE: EC, EM NO REF SOV: 017 OTHER: 003

Card 2/2

ACCESSION NR: AP4030790 S/0020/64/155/004/0900/0903

AUTHOR: Terenin, A. N.(Academician); Putseyko, Ye. K.; Akimov, I. A.; Meshkov, A. M.

TITLE: Effect of the state of aggregation of dyes on the photocurrent carrier sign

SOURCE: AN SSSR. Doklady*, v. 155, no. 4, 1964, 900-903

TOPIC TAGS: dye, brilliant green, crystal violet, malachite green, auramine, organic semiconductor

ABSTRACT: The spectral response of photo emf was plotted and the photocurrent and dark current carrier signs were determined for brilliant green, crystal violet, malachite green, and auramine dyes. The spectral response of photo emf and the photocurrent carrier sign was determined by the condenser and contact potential methods, and the dark current carrier sign, from the Seebeck effect. The samples used were in the following states of aggregation: amorphous deposits from ethanol solutions (and in some cases amorphous

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ACCESSION NR: AP4030790

sublimates) having a mirror-like surface (samples I), the above deposits treated with ethanol vapors (II), or microcrystalline precipitates (III) prepared by repeated recrystallization from ethanol. The following results were obtained: in air or in vacuum for I, the photocurrent and dark current carriers were electrons; in air and vacuum for II and III, the carriers were holes. Evidently, contact of the mirror-like films (I) with water or alcohol vapors causes them to undergo rapid recrystallization to a stable form, fine crystals (II), with carriers of opposite sign. Adsorption of polar gases and vapors on the dye can lead not only to a change in the form of aggregation, but to the formation of impurity levels, both in the bulk and on the surface of the dye film. In the case of compact mirror-like films (I), the role of the dye surface, which interacts with the surrounding atmosphere, is negligible in comparison with the role of the bulk of the sample. Therefore, the negative photocurrent carrier sign which is inherent to the dye is also preserved in air. In the case of minute crystals (II and III) in which the molecules of the dye are apparently less closely packed and whose specific surface is greater, molecules capable of trapping electrons can penetrate into the lattice.

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ACCESSION NR: AP4030790

As a result, microcrystalline layers exhibit hole conduction even in high vacuum. Orig. art. has: 4 figures.

ASSOCIATION: none

SUBMITTED: 06Dec63 DATE ACQ: 30Apr64 ENCL: 00

SUB CODE: CH,PH NO REF SOV: 009 OTHER: 008

Card 3/3

L 9670-66 EWT(l)/EWT(m)/EWP(l)/T/EWA(h) IJP(c) AT/RM
ACC NR: AP5027453 SOURCE CODE: UR/0181/65/007/011/3468/3469

AUTHOR: Meshkov, A. M. 44,55

ORG: State Institute of Optics im. Vavilov, Leningrad (Gosudarstvennyy opticheskiy institut) 44,55

TITLE: On the mechanism of formation and motion of photocurrent carriers in dyes

SOURCE: Fizika tverdogo tela, v. 7, no. 11, 1965, 3468-3469

TOPIC TAGS: semiconductor research, photoconductivity, dye chemical, IR radiation

ABSTRACT: The effects of thermal activation and infrared radiation are studied on photoconductive dyes manufactured by National Aniline Division: amorphous layers of brilliant green, crystal violet, rhodamine B and rhodamine 6G as representatives of semiconductors with slow relaxation of photoconductivity, and polycrystalline layers of brilliant green, rhodamine B and rhodamine 6G as representatives of semiconductors with fast relaxation of photoconductivity. Experiments on thermostimulated currents were done by illuminating a layer of the dye for ten minutes in visible light of the absorption band for this dye at a fixed temperature and then cooling the specimen to the temperature of liquid air in one minute. When the specimen is then heated, the surplus current above the dark current for the specimen is recorded as thermostimulated current. The effect of infrared radiation on the stationary photoconductivity of

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L 9670-66

ACC NR: AP5027453

6

layers with both fast and slow relaxation was studied, and in addition to this the effect of ir-radiation on the rate of decay in photoconductivity was studied in dye layers with slow relaxation. Thermostimulated currents were observed for all dye layers with slow relaxation of photoconductivity and in none of the dyes with fast relaxation. It is also interesting to note that the layers with slow relaxation showed photoinduced electron paramagnetic resonance signals which were not observed in the layers with fast relaxation. Infrared radiation had little effect on the stationary photoconductivity and rate of decay. The data seem to indicate that a "relay-race" mechanism is responsible for transfer of current carriers and photocurrent in dyes. This mechanism assumes predominance of thermal rather than optic energy. In conclusion, the author thanks A. N. Terenin and I. A. Akimov for constant interest in the work and valuable consultation. 14,55 14,55

SUB CODE: 20,11/ SUBM DATE: 01Jun65/ ORIG REF: 004/ OTH REF: 005

BC

Card 2/2

L 29932-65 EWP(j)/EWT(m) Pc-4 RM

ACCESSION NR: AP5004600 S/0020/65/160/002/0394/0397

AUTHOR: Meshkov, A. M.; Kholmogorov, V. Ye.

TITLE: Effect of the state of aggregation of organic dyes on their photosemiconducting and photoparamagnetic (ESR) properties

SOURCE: AN SSSR. Doklady, v. 160, no. 2, 1965, 394-397

TOPIC TAGS: organic dye, dye aggregation, photosemi-conducting property, photoparamagnetic property, electron paramagnetic resonance, triphenylmethane dye, xanthene dye

ABSTRACT: The article deals with the effect of the state of aggregation of triphenylmethane dyes (crystal violet, brilliant green, malachite green) and xanthene dyes (rhodamine 6G and rhodamine B) on their photosemiconducting and photoparamagnetic properties. Amorphous and polycrystalline layers of these dyes deposited on glass were investigated. The experiments showed that photoinduced ESR signals (PIS ESR) do not arise in dyes with a sudden photocurrent relaxation and are observed only in n-type dyes with a slow photocurrent relaxation. The temperature dependence of the rate of appearance and disappearance of PIS ESR was investigated on amorphous layers, and thermal activation energies E_a and deactivation energies E_d of PIS ESR and activation

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L 29932-65

ACCESSION NR: AP5004600

energies E_p of photoconductivity were determined. A theoretical interpretation of the phenomena observed is given. "The authors thank A. N. Terenin for suggesting the topic and for valuable comments, and also Ye. K. Putseyko, I. A. Akimov, and A. T. Vartanyan for a helpful review of the results obtained." Orig. art. has: 4 figures and 1 table.

ASSOCIATION: none

SUBMITTED: 27Mar64 ENCL: 00 SUB CODE: MT, EM

NO REF SOV: 009 OTHER: 008

Card 2/2

L 6508-66 EWT(1)/T/EWA(h) IJP(c) AT
ACCESSION NR: AP5013750 UR/0020/65/162/002/0306/0309

AUTHOR: Akimov, I. A.: Meshkov, A. M.

TITLE: Determination of the sign of the photocurrent carrier charge by the capacitor method

SOURCE: AN SSSR. Doklady, v. 162, no. 2, 1965, 306-309

TOPIC TAGS: photoconductivity, current carrier, electric polarization, charge density, conduction band, photo emf

ABSTRACT: The authors refute some of the earlier arguments, in which it was claimed that the capacitor method, widely used for the investigation of photoelectric properties of semiconductors, cannot be used to determine the sign of the photocurrent carrier charge. They cite, in particular, the frequently observed "repolarization" phenomenon, wherein an additional longer-wavelength band appears in the photo-emf spectrum, with a photo-emf of opposite sign, and show that allowance for this phenomenon explains the anomalies on the basis of which the capacitor method was deemed unsuitable. Two hypotheses are advanced to explain the "repolarization," and an experiment is described by which it has been demonstrated that this phenomenon is the result of the interaction taking place in the semiconductor between the carrier diffusion (Dember effect) and carrier drift in the field of the near-surface charge, producing anti-barrier bending of the bands at the illuminated surface. The photoeffect produced in the capacitor can be explained therefore by

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L 6508-66
ACCESSION NR: AP5013750

assuming the photoconductivity to be monopolar (and not due to rectifier action, as hitherto believed), and can therefore be used to determine the photocurrent carrier charge provided an additional investigation of the photo-emf is made to determine the relative contributions of the two types of carrier motion. The conclusions are corroborated by experimental data on the photo-emf of AgBr, AgCl, TlI, and ZnO. It is also pointed out that the capacitor method can also be used to investigate surface states of semiconductors in which the surface charge can be varied. "We are grateful to Academician A. N. Terenin for continuous interest in the work and valuable advice." This report was presented by A. N. Terenin. Orig. art. has: 3 figures.

ASSOCIATION: None

SUBMITTED: 27Oct64 ENCL: 00 SUB CODE: EM, EE
NR REF SOV: 015 OTHER: 005

nw
Card 2/2

L 12017-66 EWT(l)/T/EWA(h) EJP(c) AT

ACC NR: AP5028275 SOURCE CODE: UR/0020/65/165/002/0309/0312

4/5
4/2
B

AUTHORS: Meshkov, A. M.; Akimov, I. A.

ORG: None

TITLE: Influence of near-surface charges on the optical change in the contact potential difference of semiconductors

SOURCE: AN SSSR. Doklady, v. 165, no. 2, 1965, 309-312

TOPIC TAGS: semiconductor surface property, electric potential, drift mobility, photoeffect

ABSTRACT: This is a continuation of earlier work by the authors (DAN 162, No. 2, 1965) dealing with the change in the contact potential difference of a semiconductor induced by application of light. The earlier investigation showed that the capacitor photoemf and the potential difference observed in semiconductors under the influence of illumination is due to the presence of two components, one due to diffusion of the carriers which are unevenly generated by the light, and the second is due to the drift of these carriers in the field of the surface charge. In the present investigation the authors study the influence of the surface charges on the formation of this potential difference, and also

Card 1/3 UDC: 535.215.5

on methods of eliminating this phenomenon. The potential difference was measured with apparatus described elsewhere (Pribory i tekhn. eksp. No. 3, 181, 1964), and the photoconductivity was measured at constant illumination with a dc amplifier (EMU-4). The objects of the investigation were the polycrystalline semiconductors ZnS, CdS, TlI, and Se deposited in the form of a paste on the stationary electrode of the dynamic capacitor. The magnitude and sign of the surface charge was measured by applying constant illumination with monochromatic light or by adsorption of gas. The tests showed that the surface charges changed the spectral distribution of the potential difference. Owing to the presence of a shift of the spectrum of the drift component relative to the spectrum of the diffusion component towards the long-wave side, these changes are more appreciable in the region where the absorption of the semiconductor decreases. The drift term has a slower rate of establishment and vanishing of the potential difference than the diffusion term. The various effects produced by the drift are discussed and ways of eliminating the drift component are described. If the drift component is eliminated, then the method proposed by I. K. Vitol (Tr. Inst. fiz. i astr. AN ESSR, No. 8, 175, 1958 and elsewhere) for determining the ratio of the whole and electronic conductivities of crystal phosphors excited by light becomes applicable. This report was presented by A. N. Terenin. The authors are grateful to Academician A. N.

L 12017-66
ACC NR: AP5028276

Terenin for continuous interest in the work. Orig. art. has: 3 figures and 1 table.

SUB CODE: 20/ SUBM DATE: 19Mar65/ NR REF SOV: 005/ OTH REF: 001

Card 3/3

MESHKOV, A.N.

Direct count method in the study of petroleum microflora [with summary in English]. Mikrobiologiia 27 no.3:390-392 My-Je '58 (MIRA 11:9)

1. Institut mikrobiologii AN SSSR.
(PETROLEUM--BACTERIOLOGY)

MESHKOV, A.N.; LEVITOV, M.M.

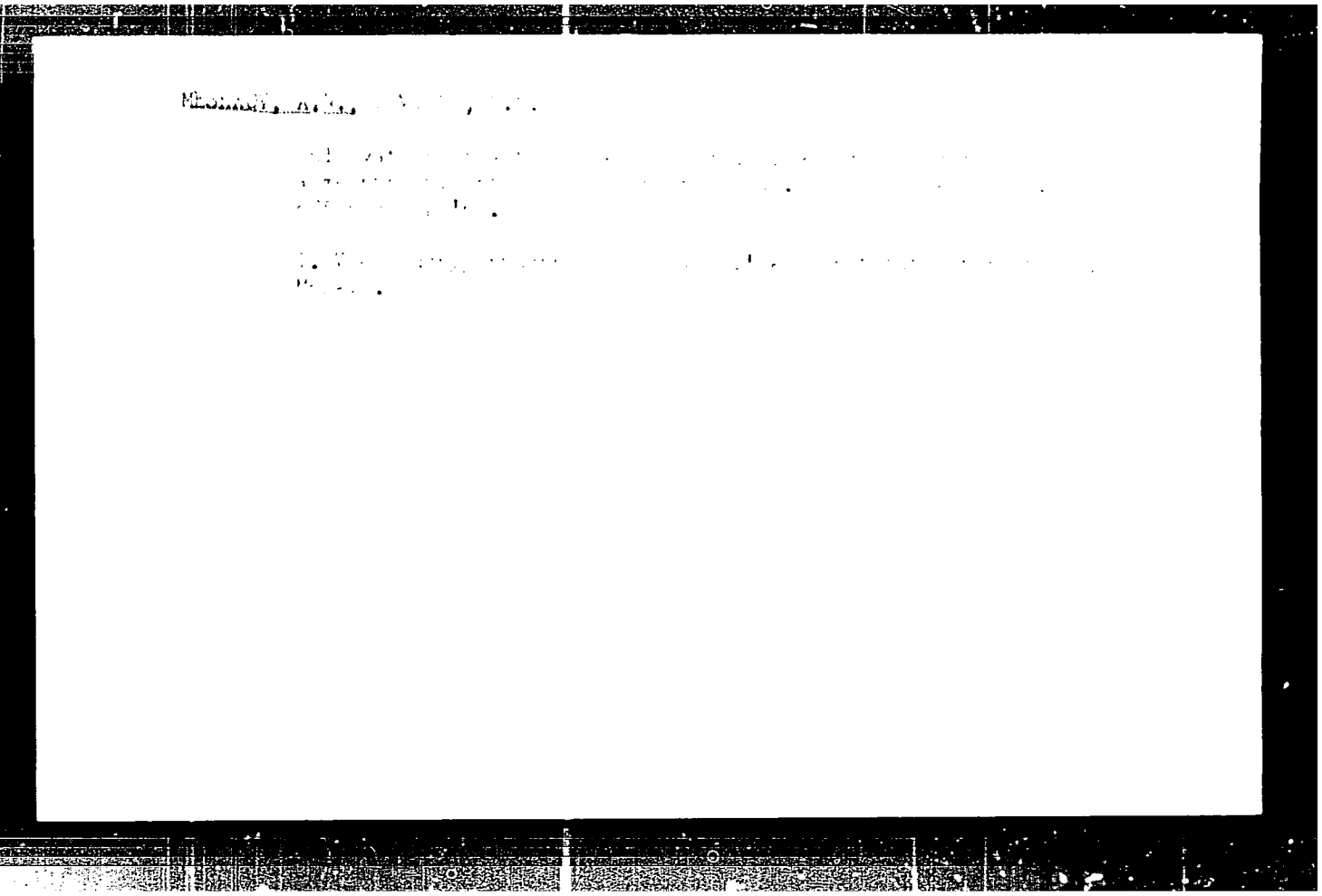
Synthetic medium for the biosynthesis of neomycin. Antibiotiki 8 no.6:494-498 Je'63 (MIRA 17:3)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut antibiotikov.

LEVITOV, M.M.; MESHKOV, A.N.

Neomycin biosynthesis in media with [illegible] and [illegible]
Mikrobiologiia 32 no.4:[illegible] [illegible]

[illegible]
Moskva.



MESHKOV, A.N.; GRABOVSKAYA, O.Z.; LEVITOV, M.M.

Effect of phosphorus on the development and metabolism of Actinomyces fradiae 129. Mikrobiologiia 34 no.4:611-616 Jl-Ag '65.

(MIRA 18:10)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut antibiotikov.

L 23998-66 EWT(1)/EWA(h)

ACC NR: AP6009836 SOURCE CODE: UR/0413/66/000/004/0030/0030

AUTHOR: Meshkov, A. N.

ORG: none

TITLE: A square pulse generator with a remote mismatched load. Class 21, No. 178856

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 4, 1966, 30

TOPIC TAGS: thyratron, pulse generator, pulse shaper, electronic circuit

ABSTRACT: This Author's Certificate introduces a square pulse generator with a remote mismatched load. The unit contains two thyratrons, a shaper line, a series LC circuit, and primary and auxiliary power supplies. Pulses reflected from the load are quenched and the power of the output pulse is amplified by connecting the cathode of the auxiliary thyratron to the plate of the main thyratron and placing the series LC circuit between the plate of the auxiliary thyratron and the cathode of the main thyratron.

UDC: 621.373.432

Card 1/2

L 23998-66

ACC NR: AP6009836

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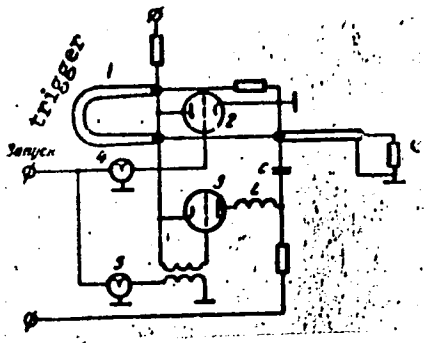


1--shaper line; 2--main thyratron; 3--auxiliary thyratron; 4 and 5--delay lines.

SUB CODE: 09/ SUBM DATE: 02Sep64/ ORIG REF: 000/ OTH REF: 000

Card 2/2

AUTHORS: Sorokin, Yu. I., Voskresov, ... N. 20-1-58/58

TITLE: The Assimilability of Protococcus Algae by Tendipes plumosus, Determined With the Aid of Radioactive Carbon C^{14} (Primeneniye radioaktivnogo ugleroda C^{14} dlya opredeleniya usvoyayemosti protokokkovykh vodorosley motylem Tendipes plumosus).

PERIODICAL: Doklady AN SSSR, 1958, Vol. 118, Nr 1, pp. 203-207 (USSR)

ABSTRACT: The isotopic method may be a great help in the qualitative and quantitative study of the nutritive interactions and needs of the aquatic invertebrate animals. Labelling with phosphate containing P^{32} cannot be used for the quantitative determination of the food eaten or assimilated. This is, however, possible with the use of C^{14}, as the ratio C^{12}/C^{14} remains constant during the transformations of carbon in the course of the process of nutrition. Thus the assimilated quantity of this food may be calculated from the radioactivity of carbon in 1 mg of organic substance of the food which was labelled with C^{14} and from the activity of C^{14} in the consumer after the test. According to a method expressly worked out for this purpose the authors were able of determining the intensity of assimilation of these algae by the gnat mentioned

Card 1/4

in the title under conditions close to nature. One of the motives were the data (reference 7) that the algae are badly assimilated by this gnat, whereas they are an excellent food for filtering crustaceans and contain many nutritive substances. The Scenodesmus algae were on the way of photosynthesis labelled with C^{14} by means of $Na_2C^{14}CO_3$. Purified larvae of Tendipes plumosus with emptied intestine were placed in a suspension of algae purified from radioactive carbonate by washing. Further the larvae were fixed, dried and their radioactivity determined by a counter. As the living algae were in the first tests badly assimilated by the larvae of Tendipes plumosus, algae killed by heat and acid products of hydrolysis of dried algae-suspensions were fed. The better assimilation of the products of hydrolysis may apparently be explained by the fact that the larvae consume the bacteria living on them, although a partial nutrition in an osmotic manner does not seem to be out of the question. The percental values of the self-regeneration of organic carbon in the larvae of gnats at the expense of the labelled Protococcus algae proved to be comparatively small. In the

case of killed algae and products of hydrolysis they even amounted to 0,07 - 0,2 % per 24 hours. Such a low percentage may on the one hand be explained by the conditions close to nature. The algae only were part of the food of the larvae. Table 1 shows that the reduction of the algae introduced into the mud to 1/10 reduces the process of self-renewal more than to 1/10. It is further to be seen from it that the larvae are not capable of a selective consumption of the algae from the mud. On the other hand the test larvae were in stage IV. They grow slowly and thus the major part of nutrition is used in the basal metabolism. In spite of this the results obtained yield a sufficiently reliable comparative material with regard to the assimilability of the food by Tendipes plumosus. For comparison the same tests were made with Daphnial. Table 2 shows that the Protococcus algae are well digested and assimilated by these crustaceans. The labelled algae here represent the major part of the food and reflect the true speed of the renewal of the body of the Daphniae at the expense of algae nutrition.

The Assimilability of Protococcus Algae by Tendipes plumosus, 20-1-58/58
Determined With the Aid of Radioactive Carbon C^{14}

There are 2 tables, and 4 references, all of which are Slavic.

ASSOCIATION: Institute for the Investigation of Water Reservoirs AN USSR (Institut issledovaniya vodokhranilishch Akademii nauk SSSR)

PRESENTED: March 8, 1957, by V. N. Shaposhnikov, Academician

SUBMITTED: March 8, 1957

AVAILABLE: Library of Congress

Card 4/4

SOROKIN, Yu.I.; MESHKO, A.N.

Use of radioactive carbon isotopes in studying the nutrition of aquatic invertebrates. Trudy Inst.biol.vodokhran. no.2: 7-14 '59. (MIRA 13:5)
(Fresh water biology) (Carbon--Isotopes)

L 7937-66 EWT(1)/EPA(s)-2/EPF(c)/EEC(k)-2/EPF(n)-2/EWA(h) WW/GG/AT

ACC NR: AP5027026 SOURCE CODE: UR/0120/65/000/005/0136/0139

AUTHOR: Meshkov, A. N.

ORG: none

TITLE: High-voltage nanosecond pulse generator

SOURCE: Pribory i tekhnika eksperimenta, no. 5, 1965, 136-139

TOPIC TAGS: pulse shaper, nanosecond pulse, pulse generator, thyratron, circuit design

ABSTRACT: A high-voltage nanosecond pulse generator is described. The principle of its operation depends on electromagnetic shock wave utilization. As seen schematically in Fig. 1, two pulses with flat fronts from a thyratron proceed on two ferrite coaxial lines, one of which contains a phase inverter. This arrangement gives rise to the two pulses shown in Fig. 1a. The combination of the two, in turn, generates the steep front pulse of Fig. 1b. A detailed circuit diagram for the thyratron generator is given (50-70 nanosec initial pulse duration). The generator shapes a pulse with a height of 4 kilovolts, 2—100 nanosecond

Card 1/2 UDC: 621.373

L 7937-66
ACC NR: AP5027026

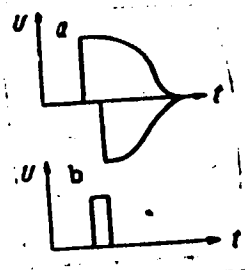
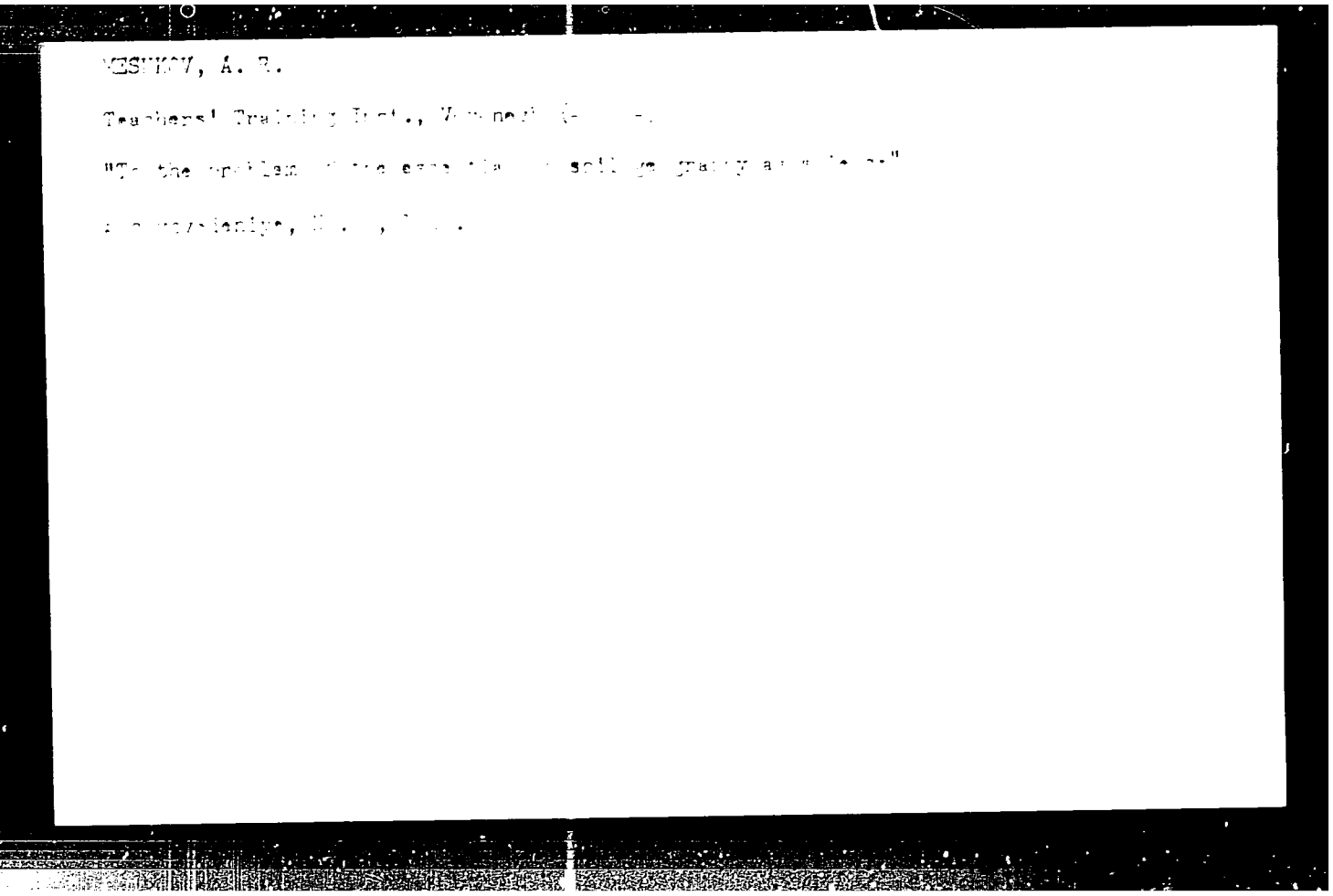


Fig. 1. Addition of two pulses

duration, and a front of less than 1 nanosecond at 75-ohm load and 10 to 1000-cycle frequency recurrence. Under all active load conditions the pulse remains rectangular in shape, and the voltage amplitude stays independent of the load. A fine adjustment on the pulse duration is possible. The author thanks I. G. Katayev for his guidance and practical assistance in the work. Orig. art. has: 5 figures. [04]

SUB CODE: 09/ SUBM DATE: 08Aug64/ ORIG REF: 001/ ATD PRESS: 4147

Card 2/2



MESHKOV, A.R.

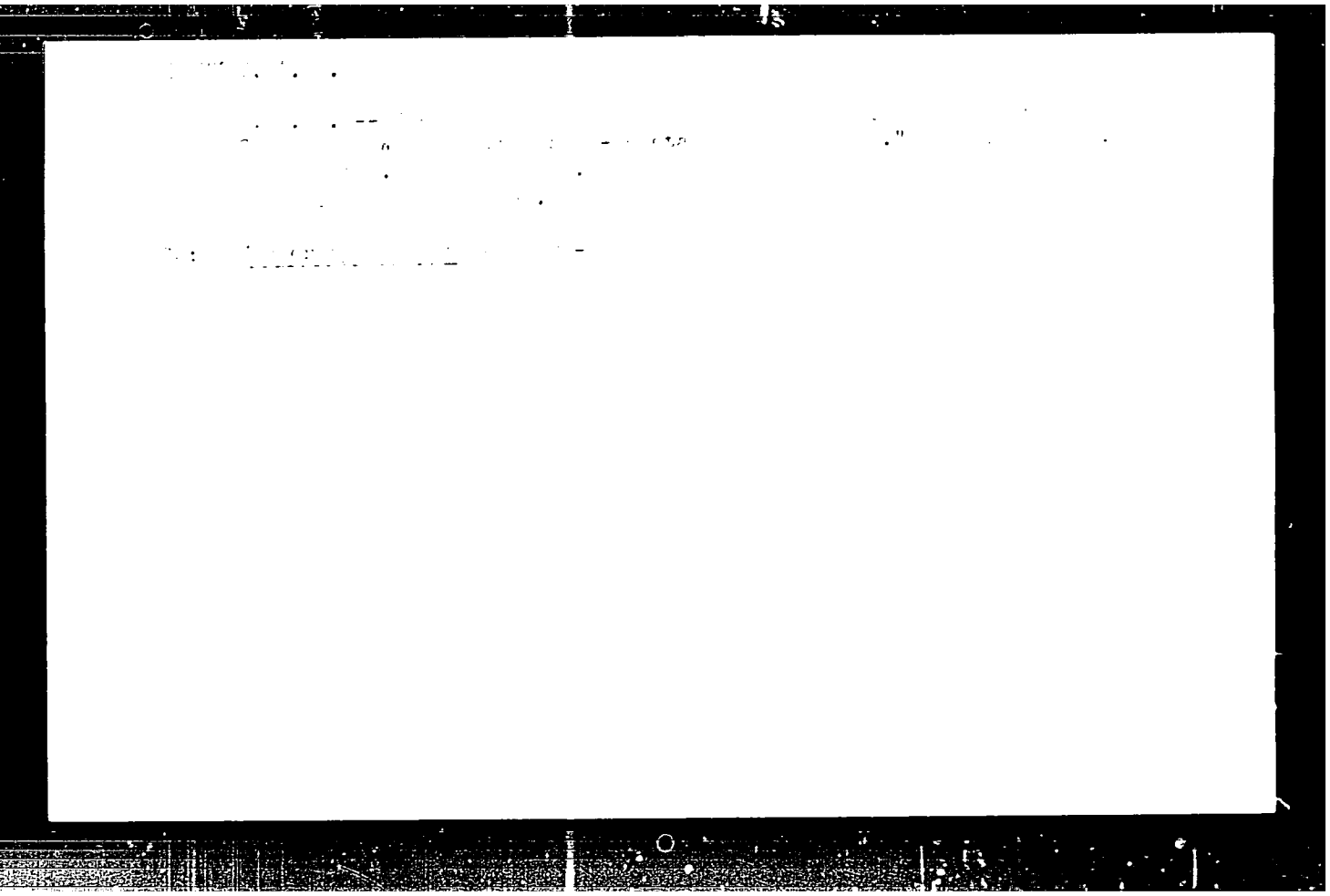
Meshkov, A. R. - "Physico-geographical regions of the Central Russian highland," Izvestiya Voronezhsk. gos. ped. in-ta, Vol. X, Issue 2, 1948, p. 5-56 --- Bibliog: 42 items

So: U-3566, 15 March 53, (Letopis 'Zhurnal 'nykh Statey, No. 13, 1949

MESHKOV, A. R.

Meshkov, A.R. - "Diagram of the ideal continent in application to explanation of the laws of soil geography," Izvestiya Voronezhsk. gos. ped. in-ta, Vol. X, Issue 2, 1948, p. 123- 26

So: U-3566, 15 March 53, (Letopis 'Zhurnal 'nykh Statey, No. 13, 1949)



APPROVED FOR RELEASE: 07/19/2001 CIA-RDP86-00513R001033710001-5"

MESHKOV, A.R.

Geobotanical districts of the central Chernozem area. Vop.geog. no.32:157-188 '53. (MIRA 10:11)
(Central Black Earth Region--Phytogeography)

MESHKOV, A.R.

KOYOV, M.I. [reviewer]

"Outline history of the flora and vegetation of the chernozem zone." A.R. Meshkov. Reviewed by M.I. Kotov. Bot.zhur.[Ukr.] 11 no.2:98-99 '54. (MLRA 8:7)

(Ukraine--Botany) (Chernozem soils)

L 9051-65 EWT(m)/EWP(b) BSD/RAEM(c)/AEWL/ESD(t)/AS(mp)-2/AFTC(p)/RAEM(t)/
ACCESSION NR: AP4044955 RAEM(i)/ASD(a)-5/ S/0181/64/006/009/2799/2808
ESD(gs)/SSD/RAEM(a) JD/JG

AUTHOR: Voron'ko, Yu. K.; Zverev, G. M.; Meshkov, B. B.; Smirnov, A. I.

TITLE: Investigation of optical and paramagnetic resonance spectra of Er^{3+} in CaF_2

SOURCE: Fizika tverdogo tela, v. 6, no. 9, 1964, 2799-2808

TOPIC TAGS: rare earth compound, electron paramagnetic resonance, light absorption, luminescence, calcium fluoride laser, crystal symmetry, Stark splitting

ABSTRACT: In view of the need of detailed information on the properties of crystals containing rare-earth ion admixtures, which are used for lasers, the authors investigated the electron paramagnetic resonance (EPR) spectrum, the optical absorption, and the luminescence of crystals of CaF_2 doped with Er^{3+} and grown by different

Card 1/3

methods. The luminescence and absorption spectra were obtained at 4.2 and 77K using DFS-13, and DFS-8 spectrographs and the IKS-12 spectrometer. The EPR study established the symmetry of the surrounding of the Er^{3+} ions in these crystals. Two types of crystals were grown, one in a fluoriding atmosphere at a pressure which did not ensure complete removal of the oxygen impurities, and one at a pressure high enough to eliminate the oxygen. The erbium concentration in the crystals was ~0.1%. The EPR data show that there are at least four essentially different types of Er^{3+} centers, having different surrounding symmetries and different crystalline field strengths. The EPR method makes it possible to study all these ions separately. On the other hand, the optical spectra yielded lines corresponding to all possible symmetries of the surrounding of the Er^{3+} ions in the spectra. To relate the two methods, the spin-lattice relaxation of the Er^{3+} ions in the CaF_2 was measured at 2—45K, and the distances to the nearest excited Stark components of the lower level of these ions were determined. These data were

L 9051-65
ACCESSION NR: AP4044955

used in the analysis of the optical spectra. In addition, a theoretical interpretation of the level splitting in the crystalline field is presented (in the cubic-field approximation) for Er^{3+} ions in a tetragonal surrounding. "The authors are grateful to A. M. Prokhorov for interest and to V. V. Osiko for valuable discussions." Orig. art. has: 6 figures, 3 formulas, and 3 tables.

ASSOCIATION: Moskovskiy gosudarstvenny*y universitet im. M. V. Lomonosova (Moscow State University)

SUBMITTED: 18Apr64 ATD PRESS: 3110 ENCL: 00

SUB CODE: OP, SS NR REF SOV: 004 OTHER: 014

Card 3/3

VORON'KO, Yu.K.; ZVIREV, G.M.; MESHKOV, B.B.; SMIRNOV, A.I.

Optical and paramagnetic resonance spectrum of Er^{3+} in CaF_2.
Fiz. tver. tela 6 no.9:2799-2808 S '64. (MIRA 17:11)

1. Moskovskiy gosudarstvennyy universitet imeni Lomonosova.

L 9051-65 EWT(m)/EWP(b) BSD/RAEM(c)/AEWL/ESD(t)/AS(mp)-2/APTC(p)/RAEM(t)/
ACCESSION NR: AP4044955 RAEM(i)/ASD(a)-5/ S/0181/64/006/009/2799/2808
ESD(gs)/SSD/RAEM(a) JD/JG

AUTHOR: Voron'ko, Yu. K.; Zverev, G. M.; Meshkov, B. B.; Smirnov, A. I. 13

TITLE: Investigation of optical and paramagnetic resonance spectra of Er^{3+} in CaF_2

SOURCE: Fizika tverdogo tela, v. 6, no. 9, 1964, 2799-2808

TOPIC TAGS: rare earth compound, electron paramagnetic resonance, light absorption, luminescence, calcium fluoride laser, crystal symmetry, Stark splitting

ABSTRACT: In view of the need of detailed information on the properties of crystals containing rare-earth ion admixtures, which are used for lasers, the authors investigated the electron paramagnetic resonance (EPR) spectrum, the optical absorption, and the luminescence of crystals of CaF_2 doped with Er^{3+} and grown by different

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methods. The luminescence and absorption spectra were obtained at 4.2 and 77K using DFS-13 and DFS-8 spectrographs and the IKS-12 spectrometer. The EPR study established the symmetry of the surrounding of the Er^{3+} ions in these crystals. Two types of crystals were grown, one in a fluoriding atmosphere at a pressure which did not ensure complete removal of the oxygen impurities, and one at a pressure high enough to eliminate the oxygen. The erbium concentration in the crystals was ~0.1%. The EPR data show that there are at least four essentially different types of Er^{3+} centers, having different surrounding symmetries and different crystalline field strengths. The EPR method makes it possible to study all these ions separately. On the other hand, the optical spectra yielded lines corresponding to all possible symmetries of the surrounding of the Er^{3+} ions in the spectra. To relate the two methods, the spin-lattice relaxation of the Er^{3+} ions in the CaF_2 was measured at 2--45K, and the distances to the nearest excited Stark components of the lower level of these ions were determined. These data were

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used in the analysis of the optical spectra. In addition, a theoretical interpretation of the level splitting in the crystalline field is presented (in the cubic-field approximation) for Er^{3+} ions in a tetragonal surrounding. "The authors are grateful to A. M. Prokhorov for interest and to V. V. Osiko for valuable discussions."
Orig. art. has: 6 figures, 3 formulas, and 3 tables.

ASSOCIATION: Moskovskiy gosudarstvenny*y universitet im. M. V. Lomonosova (Moscow State University)

SUBMITTED: 18Apr64 ATD PRESS: 3110 ENCL: 00

SUB CODE: OP, SS NR REF SOV: 004 OTHER: 014

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MESHKOV, D.A.; GRINKEVICH, R.F., red.; KOSTINA, A.V., tekhn.red.

[Equipment for making ceramic facing stones] Osnastka dlia proizvodstva oblitsovochnykh keramicheskikh kamnei. Kuibyshev, Tsentr.biuro tekhn.informatsii, 1959. 6 p. (MIRA 14:1)
(Ceramics)

KLOCHNEV, N.I.; DREVETNIK, P.P.; MESHKOV, D.A.; GRUZHIYENKO, K.F.

Properties of spheroidal graphite iron in large castings. (MIRA 14:5)
Lit. proizv. no. 5:1-4 My '61.
(Cast iron—Metallography)

S/128/61/000/005/002/005
A054/A127

AUTHORS: Matveyev, V.D., Meshkov, D.A., Malakhov, I.F., Krapivka, N.A.

TITLE: Air-tight ladle for adding magnesium to cast iron

PERIODICAL: Liteynoye proizvodstvo, no. 5, 1961, 41

TEXT: After 2 years' experience with the 1.5 and 4.5 ton air-tight ladles designed by the TsNIITMASh for the magnesium modification of iron it was found, that, if securing the cover to the ladle with eccentric screws or wedges it was not possible to obtain the air-tightness required. At the NKMZ a new device has been developed to fasten the cover to the ladle. It is based on the principle of a "gun-type" stopper and consists of a double thread with a four-fold coil having a rectangular section and a 40-mm pitch. The angle of inclination of the thread is $2^{\circ}30'$. After making the thread one coil is removed while actually one coil takes part in the operation. The new device eliminates any wedging and ensures a normal tightening at various thicknesses of the insert. The latter is made of asbestos, covered with graphite and lubricated with oil; its size is 10x10 mm for the ladle and 22x22 mm for the cover. The tests carried out show that the device ensures air-tightness as well as an efficient assembly of the cover and ladle. There are 3 figures.

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MESHKOV, D. A., inzh.; TEL'NYUK-ADAMCHUK, V. V., inzh.; KATS, M. E., inzh.

Analysis of the operation of a cupola furnace with water cooling of the melting zone. Mashinostroenie no.5:47-49 S-O '62. (MIRA 16:1)

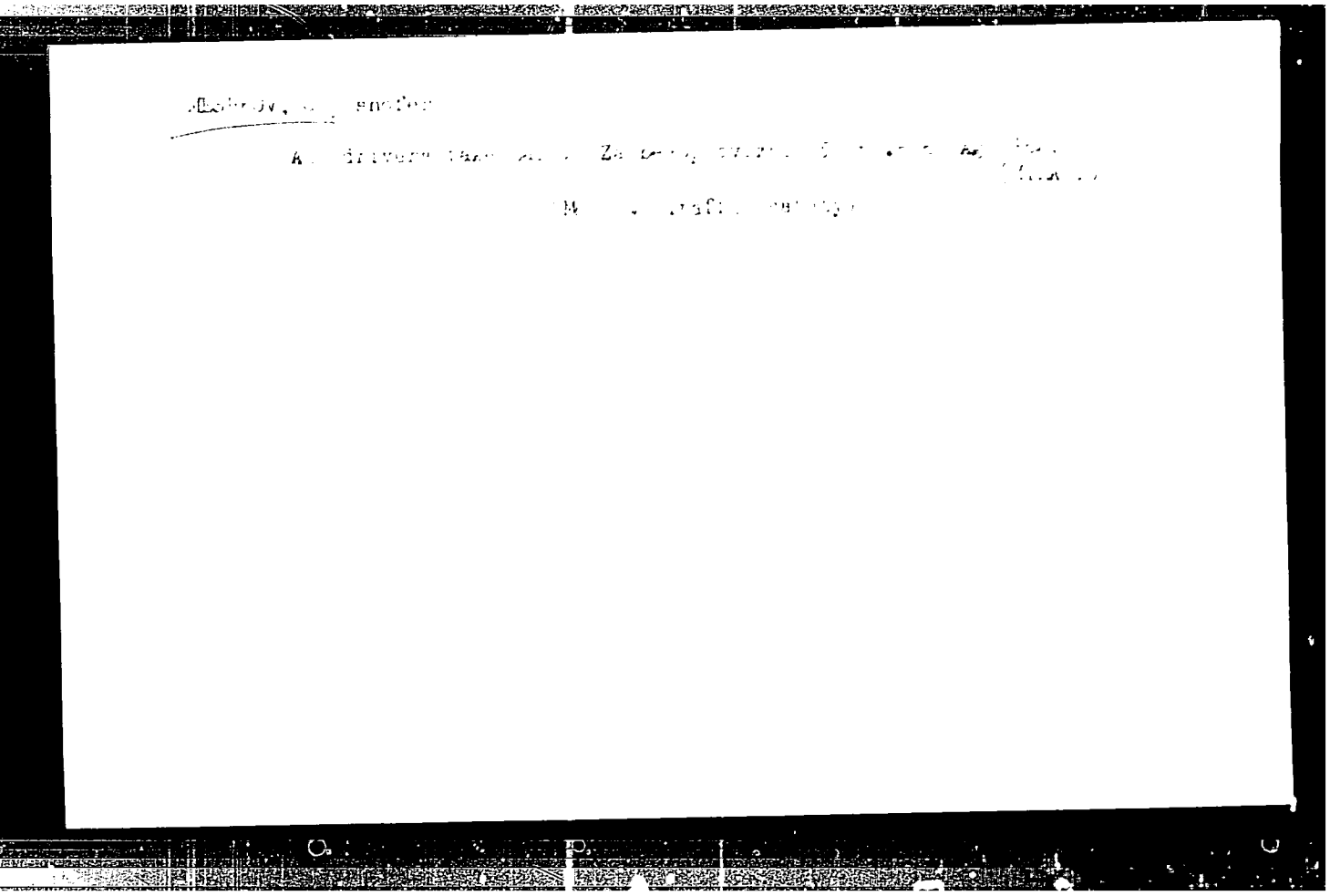
1. Novo-Kramatorskiy mashinostroitel'nyy zavod.

(Cupola furnaces)

KLOCHNEV, N.I.; IL'ICHEVA, L.V.; MESHKOV, D.A.; DREVETNYAK, P.P.

Characteristics of the crystallization of magnesium cast iron in large castings. Lit. proizv. no.1:16-19 Ja '63. (MIRA 16:3)

(Iron founding) (Crystallization)



DOLINSKAYA, E.S., inzh.; STUKOVNINA, L.Ya., inzh.; MESHKOV, G.V., inzh.; BERKOVICH, T.M., kand. tekhn. nauk

System of steaming slate on the SM-898 unlined mechanized flow line. Stroi. mat. 10 no.10:10-11 O '64. (MIRA 18:2)

ZARETSKIY, B.I., inzh.; NEYFEL'D, M.S., inzh.; MESHKOV, G.V., inzh.; PRUZHANSKIY, G.D., inzh.

Corrugating and assembling unit designed by N.I.Ershov for making slate without using packing material. Stroi. mat. 6 no.11:25-27 N '60. (MIRA 13:11)

(Roofing, Slate)

MESHKOV, I.I.

Pneumatic [illegible] starch. Bum. prom. [illegible]
'61.

1. Osetinskiy krakhmal'nyy zavod.
(Starch--Drying)

L 5173-66 EWT(m)/EPA(w)-2/EWA(q)-2 IJP(c) GS
ACCESSION NR: AT5022586 UR/0000/65/000/000/0001/0022

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B+1

AUTHOR: Meshkov, I. N.; Chirikov, B. V.

TITLE: Focusing of an intense electron beam in an accelerator tube 19

SOURCE: AN SSSR. Sibirskoye otdeleniye. Institut yadernoy fiziki. Doklady, 1965. Fokusirovka intensivnogo elektronnogo puchka v uskoritel'noy trubke, 1-22

TOPIC TAGS: electron beam, linear accelerator, focusing accelerator, electron accelerator

ABSTRACT: The passage of an intense electron beam through a linear accelerator tube is being investigated. One of the basic related problems is the need for beam focusing, and although there exist numerous papers devoted to this question, none of them seem to discuss the dynamics of a relativistic beam taking into account its characteristic field and the presence of a longitudinal accelerating field. Consequently, the present authors develop the appropriate relativistic equations of motion, discuss an unaccelerated beam and an accelerated beam in a uniform field, present the theoretical foundations for beam focusing by means of a periodic field, and carry out the actual calculation of the periodic field within the accelerator tube. The authors give numerous diagrams which should be

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helpful during future accelerator designs, and indicate the stability regions. "The authors thank Ye. A. Abramyan for valuable discussions and I.D. Bagbay and A. G.Boriskin for their help during the investigation." Orig. art. has: 45 formulas and 8 figures.

ASSOCIATION: none

SUBMITTED: 00 ENCL: 00 SUB CODE: NP

NO REF SOV: 003 OTHER: 002

Card 2/2 Mcd